

# इंटरनेट

# मानक

## Disclosure to Promote the Right To Information

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 7868 (1975): Rotary Drill Rods for Drilling Principally  
in Coal [PGD 8: Pneumatic Tools]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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Pneumatic Tools Sectional Committee, EDC 64; Rock Drilling Machines Subcommittee, EDC 64:1 [Ref: Doc: EDC 64 (2886)]

Indian Standard  
SPECIFICATION FOR  
ROTARY DRILL RODS FOR DRILLING  
PRINCIPALLY IN COAL

"~~पुनर्वर्णित~~ १९८६"  
"AFFIRMED 1986"

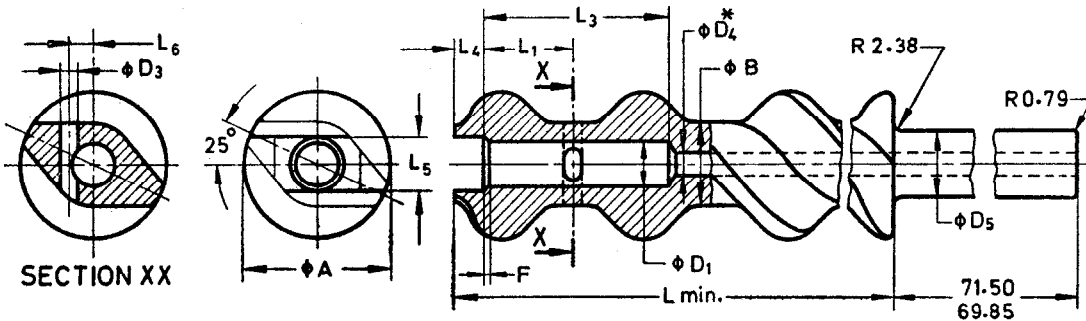
1. Scope — Covers the requirements for the rotary drill rods for drilling holes. The tools are for use principally in coal but are also applicable to other materials having appropriate driving characteristics.

2. Terminology

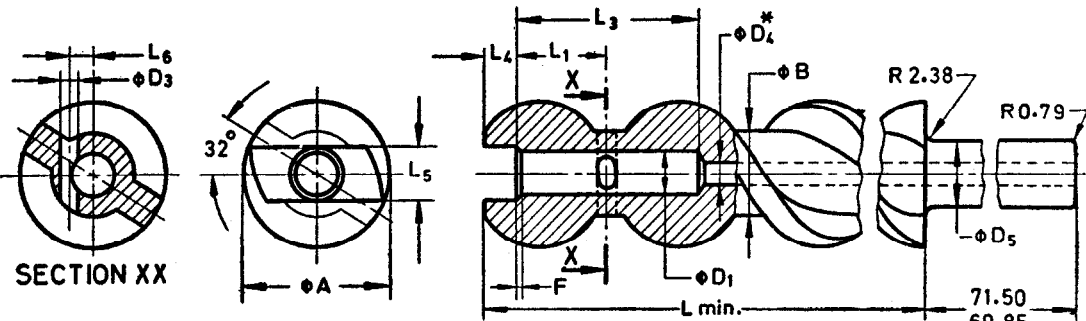
- 2.1 Length of Rod — The length of the twisted portion of the rod. It does not include the shank.
- 2.2 Pitch of Rod — The distance between the centres of two adjacent scrolls.

3. Dimensions

3.1 Connecting Dimensions



DIAMOND SECTION



TURBINE SECTION

All dimensions in millimetres.

| $D_1$<br>$+0.2$<br>0 | $D_2$<br>$+0.3$<br>0 | $L_1$<br>$\pm 0.15$ | $L_2$<br>$\pm 1.6$ | $L_3$<br>$\pm 0.2$ | $L_4$<br>$+0.8$<br>0 | $L_5$<br>$\pm 0.2$ | $F$ (In Hole),<br>Min | $D_6^*$<br>$\pm 0.4$ | $D_7$<br>$\pm 0.08$ |
|----------------------|----------------------|---------------------|--------------------|--------------------|----------------------|--------------------|-----------------------|----------------------|---------------------|
| 12.8                 | 4.5                  | 23.0                | 49.2               | 8.5                | 13.5                 | 6.5                | 0.25 x 45°            | 6.35                 | 19.5                |

\* $D_6$  is the diameter of hole, for water, provided in the rod for wet drilling purposes only.

### 3.2 Diameter and Pitch of Rod

All dimensions in millimetres.

| Diameter of Rod | A*   | B*   | Pitch |
|-----------------|------|------|-------|
| 31·7            | 31·7 | 22·2 | 38·1  |
| 34·7            | 34·7 | 22·2 | 38·1  |
| 39·7            | 39·7 | 22·2 | 38·1  |
| 47·6            | 47·6 | 22·2 | 63·5  |
| 54·0            | 54·0 | 22·2 | 66·7  |
| 60·3            | 60·3 | 22·2 | 76·2  |
| 66·7            | 66·7 | 25·4 | 85·7  |

\*See figure under 3.1.

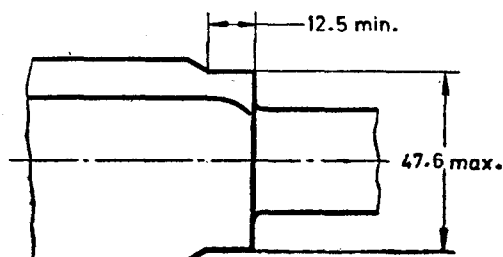
### 3.3 Length of Rods

All dimensions in millimetres.

| Type of Drilling            | Dry Drilling  |       |       |               |       |       | Wet Drilling   |       |       |                |       |       |
|-----------------------------|---------------|-------|-------|---------------|-------|-------|----------------|-------|-------|----------------|-------|-------|
| Section of Rod              | Solid Diamond |       |       | Solid Turbine |       |       | Hollow Diamond |       |       | Hollow Turbine |       |       |
| Dia of Rod                  | 31·7          | 34·7  | 39·7  | 39·7          | 47·6  | 54·0  | 34·7           | 39·7  | 47·6  | 54·0           | 60·3  | 66·7  |
| *Length of Rod<br>L,<br>Min | 600           | 600   | 600   | 600           | 600   | 600   | 600            | 600   | 600   | 600            | 600   | 600   |
|                             | 900           | 900   | 900   | 900           | 900   | 900   | 900            | 900   | 900   | 900            | 900   | 900   |
|                             | 1 200         | 1 200 | 1 200 | 1 200         | 1 200 | 1 200 | 1 200          | 1 200 | 1 200 | 1 200          | 1 200 | 1 200 |
|                             | 1 500         | 1 500 | 1 500 | 1 500         | 1 500 | 1 500 | 1 500          | 1 500 | 1 500 | 1 500          | 1 500 | 1 500 |
|                             | 1 800         | 1 800 | 1 800 | 1 800         | 1 800 | 1 800 | 1 800          | 1 800 | 1 800 | 1 800          | 1 800 | 1 800 |
|                             | —             | —     | 2 100 | 2 100         | —     | —     | 2 100          | 2 100 | —     | 2 100          | —     | 2 100 |
|                             | —             | —     | 2 400 | —             | —     | —     | 2 400          | 2 400 | —     | 2 400          | —     | 2 400 |

\*See figure under 3.1.

3.4 For rods of diameter 54·0 mm and above, the winged portion adjacent to the shank shall be reduced in diameter to 47·6 mm maximum for a minimum distance of 12·5 mm as shown below to facilitate the maximum possible engagement in the chuck:



### 4. Tolerances

4.1 The distance between the centre of diameter  $D_1$  and the centre of rod shall not exceed 0·8 mm.

4.2 The centre of diameter  $D_1$  may deviate by a maximum of 0·15 mm from the centre lines between the driving flats.

4.3 The eccentricity between shank and rod shall not exceed 0·8 mm.

5. Material — High tensile steel with minimum 0·55 percent carbon.

6. Designation — A rotary drill rod of solid diamond section (SD for solid diamond, ST for solid turbine, HD for hollow diamond and HT for hollow turbine), 34·7 mm in diameter and 600 mm in length shall be designated as follows:

Rotary Drill Rod SD 34·7×600 IS : 7868

**7. Hardness** — 230 to 340 *HV*.

**8. Straightness** — When rods are laid upon a flat surface and rotated, no point on the line of contact shall be more than 6.5 mm above the surface for rods of lengths up to 1 800 mm and pro rata for lengths over 1 800 mm.

**9. Marking** — Each rod shall be marked on the shank with the diameter of rod and manufacturer's name or trade-mark.

**9.1 Certification Marking** — Details available with the Bureau of Indian Standards.

## **EXPLANATORY NOTE**

While preparing this standard, considerable assistance has been derived from the following publications:

ISO 1717-1974 Rock drilling — Rotary drill rods and rotary drill bits for dry drilling — Connecting dimensions. International Organization for Standardization.

BS 2593 : 1964 Specification for rotary drill rods and tungsten carbide tipped rotary drill bits for dry drilling, principally in coal. British Standards Institution, London.

N.C.B. Specification No. 138/1968 Rotary drill rods  $1\frac{9}{16}$  in diameter. National Coal Board, London.

N.C.B. Specification No. 531/1968 Rotary drill rods other than  $1\frac{9}{16}$  in diameter. National Coal Board, London.